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ABSTRACT

This paper reports on the creation, growth, and continual development of a teacher-researcher community formed in conjunction with the University of Georgia site of the National Reading Research Center (NRRC). The National Reading Research Center School Research Consortium (SRC) is a teacher-researcher community that includes approximately 35 elementary, middle, and high school teachers from the greater Athens, Georgia, area. The mission of the SRC is to conduct and report teacher-directed classroom-based inquiry that informs practice and enlightens theory for literacy professionals. The research questions that drive current and future studies come directly from the teacher-researchers. The first sets of research questions came from open-ended meetings with prospective SRC teacher researchers. These questions were then refined and honed as the teacher researchers wrote proposals for SRC funding. The research questions evolved further as the research was implemented. The paper includes research questions that direct SRC studies, as well as vignettes of how teacher researchers' inquiry and research questions changed as the research process unfolded. Contains 24 references and 2 tables listing research questions. (RS)

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Research Questions Teachers Ask: A Report from the National Reading Research Center School Research Consortium

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READING RESEARCH REPORT NO. 30
Fall 1994

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About the National Reading Research Center

The National Reading Research Center (NRRC) is funded by the Office of Educational Research and Improvement of the U.S. Department of Education to conduct research on reading and reading instruction. The NRRC is operated by a consortium of the University of Georgia and the University of Maryland College Park in collaboration with researchers at several institutions nationwide.

The NRRC's mission is to discover and document those conditions in homes, schools, and communities that encourage children to become skilled, enthusiastic, lifelong readers. NRRC researchers are committed to advancing the development of instructional programs sensitive to the cognitive, sociocultural, and motivational factors that affect children's success in reading. NRRC researchers from a variety of disciplines conduct studies with teachers and students from widely diverse cultural and socioeconomic backgrounds in pre-kindergarten through grade 12 classrooms. Research projects deal with the influence of family and family-school interactions on the development of literacy; the interaction of sociocultural factors and motivation to read; the impact of literature-based reading programs on reading achievement; the effects of reading strategies instruction on comprehension and critical thinking in literature, science, and history; the influence of innovative group participation structures on motivation and learning; the potential of computer technology to enhance literacy; and the development of methods and standards for alternative literacy assessments.

The NRRC is further committed to the participation of teachers as full partners in its research. A better understanding of how teachers view the development of literacy, how they use knowledge from research, and how they approach change in the classroom is crucial to improving instruction. To further this understanding, the NRRC conducts school-based research in which teachers explore their own philosophical and pedagogical orientations and trace their professional growth.

Dissemination is an important feature of NRRC activities. Information on NRRC research appears in several formats. *Research Reports* communicate the results of original research or synthesize the findings of several lines of inquiry. They are written primarily for researchers studying various areas of reading and reading instruction. The *Perspective Series* presents a wide range of publications, from calls for research and commentary on research and practice to first-person accounts of experiences in schools. *Instructional Resources* include curriculum materials, instructional guides, and materials for professional growth, designed primarily for teachers.

For more information about the NRRC's research projects and other activities, or to have your name added to the mailing list, please contact:

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James F. Baumann is a Professor of Reading Education and Associate Director of the National Reading Research Center at the University of Georgia. His research interests involve comprehension strategy instruction, the establishment of teacher research communities, and the use of commercial reading materials. During the 1994-95 academic year, he participated in a job exchange, returning to teach second grade full-time in an Athens, Georgia, public elementary school.

JoBeth Allen is an Associate Professor in Language Education at the University of Georgia. She conducts collaborative research with teacher researchers in whole language classrooms, with a particular focus on the students teachers worry about the most.

Betty Shockley is a teacher with the Clarke County School District in Athens, Georgia. She is currently participating in a job exchange with Jim Baumann that allows Jim to teach second grade for Betty at Fowler Drive Elementary School while Betty teaches for Jim in the reading department at the University of Georgia. Betty is also a graduate student in Language Education and director of the NRRC's School Research Consortium. She has co-authored two books, *Engaging Children* and *Engaging Families*, with Barbara Michalove (Clarke County Schools) and JoBeth Allen (University of Georgia).

National Reading Research Center
Universities of Georgia and Maryland
Reading Research Report No. 30
Fall 1994

Research Questions Teachers Ask: A Report from the National Reading Research Center School Research Consortium

James F. Baumann
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Betty Shockley
University of Georgia

Abstract. *The National Reading Research Center School Research Consortium (SRC) is a teacher-research community that includes approximately 35 elementary, middle, and high school teachers from the greater Athens, Georgia, area. The mission of the SRC is to conduct and report teacher-directed classroom-based inquiry that informs practice and enlightens theory for literacy professionals. Initiated in the fall of 1992, the SRC is a grass-roots, self-governed teacher research community. One of the distinguishing and critical features of the SRC is that the research questions that drive current and future studies have come directly from the teacher-researchers themselves, as opposed to questions that might emanate from university researchers or their larger NRRC research agenda. This paper describes the evolution of the research questions that guide SRC studies. The first sets of research questions came from open-ended meetings with prospective SRC teacher researchers. These questions were then refined and honed as the teacher researchers wrote proposals for SRC funding. The research questions evolved further as the research was implemented. Research questions that direct SRC studies are included, as are vignettes of how teacher researchers' inquiry and research questions changed as the research process unfolded.*

> A substantial portion of our research agenda will be based on issues teachers identify as critical . . . and we intend to listen carefully and respond to what we hear. (University of Georgia and University of Maryland, *National Reading Research Center: A Proposal*, 1991)

In this paper, we report on the creation, growth, and continual development of a teacher-research community formed in conjunction with the University of Georgia site of the National Reading Research Center (NRRC). We focus on the *questions* that prompted, guided, and now direct the 17 research studies in our teacher-research community, the School Research Consortium (SRC). This paper is organized into four sections. First, we describe the centrality of teacher research to the NRRC and how teachers' questions guided the formation of the Center. Second, we discuss the initial questions that teachers posed about their literacy instruction in the early stages of the SRC development. Third, we present the current set of questions that drive the SRC research studies and tell two stories to illustrate

how the teacher-researchers' questions developed over time. Last, we discuss our data on teachers' questions within the growing literature on teacher research and teacher-research communities.

TEACHERS' QUESTIONS: CENTRAL TO THE NRRC

Although teacher questioning or inquiry is hardly a new phenomenon (McFarland & Stansell, 1993; Olson, 1990), it may be in its golden age. The publication of numerous books describing and reporting teacher inquiry (e.g., Allen, Michalove, & Shockley, 1993; Bissex & Bullock, 1987; Cochran-Smith & Lytle, 1993; Goswami & Stillman, 1987; Patterson, Santa, Short, & Smith, 1993), the creation of special interest groups in professional organizations (e.g., "Teaching as a Researching Profession" SIG of the International Reading Association), and the establishment of teacher-research communities throughout the world (e.g., Lytle & Cochran-Smith, 1992; Oja & Smulyan, 1989) all attest to the strength of the teacher-research movement. Teacher inquiry as a viable, valuable research perspective is indeed an idea whose time has come.

The NRRC was founded upon the principle that teacher questioning and inquiry is an essential cornerstone for a literacy research center:

> Our vision for the NRRC is based upon the belief that there should be a dynamic, reciprocal relationship between theory and practice—that theory can inform practice and practice can enlighten theory. Therefore, NRRC activities will enlist teachers as collaborative researchers and establish permanent research sites where university- and school-based researchers plan, conduct, synthesize, and report research. When teachers engage in research, posing problems and examining their own work, there is inherently a bridge between theory and practice. Teacher inquiry develops ownership of the research questions, enhances the credibility of the findings, and fosters dissemination. (University of Georgia and University of Maryland, 1991, p. 5)

As a first step in the formation of the NRRC and the SRCs, we polled teachers regarding what they believed the critical issues or questions were that faced them as teachers and researchers (O'Flahavan et al., 1992). The poll consisted of 84 items that centered on nine major themes: basic processes in reading; early reading; reading comprehension; home, family, and community; learners placed at risk of reading failure; reading assessment; reading in subject matter areas; motivation; and teacher professionalism and development. The results of the poll revealed a range of issues and questions of interest to teachers. The 10 most frequently cited concerns were the following: (a) creating interest in reading, (b) reading-writing relationships in the early grades, (c) instructional programs for children placed at risk, (d) teacher decision-making in the reading program, (e) increasing the amount and breadth of children's reading, (f) teaching reading strategies, (g) intrinsic desire for reading, (h) parent-school partnerships, (i)

roles of teachers, peers, and parents in motivation, and (j) effects of early storybook reading. The teacher questions gleaned from this poll were used to guide and craft the original NRRC proposal and our subsequent research (Alvermann & Guthrie, 1993). For example, the strong teacher concern for creating student interest and motivation for reading (items a, e, g, and i above) led to a significant emphasis on motivation in NRRC studies.

INITIAL QUESTIONS ABOUT LITERACY TEACHING AND LEARNING

In the early fall of 1992, a committee was formed at the University of Georgia NRRC site to act on the commitment to establish a teacher-research community as outlined in the original proposal for funding. This committee consisted of five individuals: Betty Shockley, an experienced public school teacher and teacher researcher who was on leave to initiate and direct the NRRC's fledgling SRC; Barbara Michalove, a classroom teacher and experienced teacher researcher; Valerie Garfield, a classroom teacher who had participated in NRRC research previously; JoBeth Allen, a university professor who had helped organize other teacher research communities (e.g., Kingsbridge Road Research Team, in press); and James Baumann, an NRRC administrator who was planning on returning to teach elementary school full-time for a year and engage in teacher research himself.

As a first step in the process of establishing an SRC, we sent a letter to all public elementary and secondary schools within 30 miles of the University of Georgia campus. This letter described the NRRC and the SRC concept and invited school faculties to discuss with us their most pressing literacy issues. The SRC Committee met with interested faculty from eight elementary and secondary schools on their campuses. These groups ranged in size from eight or nine interested teachers to full school faculties of 30 teachers. The primary purpose of these meetings was to *listen* to the teachers and learn about the issues they believed to be most important to them as prospective reading researchers.

To initiate the dialogue at these meetings, we asked the participants: "What questions do you have about the teaching and learning of literacy in your school or classrooms?" In response to our query, the teachers had a range of questions that focused on their unique teaching situations. However, like the responses to the poll, the teachers' questions fell into recurring themes that were evident across the discussions. Table 1 presents these seven themes and a representative subset of questions within themes. Several themes replicated those gleaned from the poll, for example, teachers' concern for motivation, interest, and attitudes toward literacy; parent-home-school connections; and the role of instructional strategies. Others went beyond the poll, for example, the questions that involved technology and literacy education.

TEACHERS' QUESTIONS EVOLVE

On the basis of these meetings, the SRC committee created a process whereby school faculties interested in joining the consortium

Table 1. Teachers' Questions from Discussions at Elementary and Secondary Schools

Motivation, Interest, and Attitudes: "How is whole-group reading affecting students' attitudes toward reading?" (elementary teacher); "How can a textbook be written to be more engaging? Is there a way to get kids engaged positively?" (high school history teacher); "How can I use popular literature to develop a window to science content?" (secondary science teacher); "How is the 'Reading Lunch' program working?" (elementary media specialist).

Home-School-Community Links: "How do we get parents interested in promoting their kids' literacy?" (elementary teacher); "How can we promote literacy in homes, for example, with teenage mothers?" (ninth-grade English teacher); "What if there is no one at home with whom the child can read? What if the mother can't read? What can we do?" (elementary teacher).

Content Reading/Learning From Text/Functional Literacy: "I'd like to know more about teaching reading and writing through content subjects." (upper elementary teacher); "In vocational programs, kids need help in reading charts, diagrams, tables, and so forth. How can I help them do so?" (high school vocational teacher).

Assessment: "Self evaluation—how can kids evaluate themselves?" (kindergarten teacher); "We need to look at alternative forms of assessment." (elementary teacher).

Technology: "How about using technologies to promote literacy and reading?" (secondary media specialist); "What about TV? Could discussions be created around TV programs?" (Chapter 1 teacher).

Diversity: Linguistic, Racial, Cultural: "Communication levels among students with different backgrounds and races—how can we promote broader tolerance and understanding? How does literacy interact with this process?" (secondary teacher); "How do we deal with an ESL child who is neither fluent in English nor his first language?" (elementary teacher).

Instructional Strategies and Interventions: "Are we hurting kids by encouraging them to use invented spellings when they reach my grade level?" (third-grade teacher); "I'd like to explore the impact use of wordless picture books has on kids' oral language development?" (primary-grade teacher); "What effect has peer tutoring had, for example, on reading buddies and cross-grade pairs?" (elementary teacher).

indicated in writing their research goals, their expectations for an SRC, what they had to offer the NRRC, and what they would expect to receive from the cooperative research arrangement. Proposals were received from five elementary schools and one secondary school in the greater Athens area.

The SRC committee reviewed the documents submitted and decided that Fourth Street Elementary School in Athens would be the physical home for the SRC, due to the large number of teacher researchers at this campus, the diverse cultural make-up of the school, and its convenient central location. However, the

consortium consisted of teacher researchers from most of the schools that had responded to our letter of inquiry, and teachers from other schools not in the original pool also requested to join as the SRC became known within the local education community. In its first year, the University of Georgia SRC consists of 34 teacher researchers located in one high school, two middle schools, and eight elementary schools in four counties surrounding Athens, Georgia. In addition to ourselves, who serve as NRRC facilitators, there are four university-based co-researchers participating in SRC projects. These university researchers (see SRC studies E, F, and K in Table 2) were initially involved in the SRC as visitors to early SRC meetings because of their interest in classroom research and in hopes of developing collaborative projects. Whole group and small group discussions of research interests and questions led to partnerships. Michelle Commeyras and Georgiana Sumner had collaborated on a previous project (Commeyras, 1994; Commeyras & Sumner, in press) and decided to bring in Johni Mathis on their inquiry (SRC Study E). Melvin Bowie, Shu-Hsien Chen, and Dana MacDougald had worked together professionally but never as researchers (SRC Study K). Randi Stanulis had just moved to our area and was eager to join a research community; the Comer Elementary School teachers had similar interests and invited her to join them (SRC Study F). However, in all instances, the SRC teacher researchers posed the research questions and had major responsibility for directing the projects.

The preliminary questions the teacher researchers posed (Table 1) evolved over time into full-fledged research questions and proposals. This began during a two-day meeting held in June 1993 at Fourth Street School. At this meeting, the teacher researchers shared their research ideas, met with other teachers interested in collaborating with them, and began selecting research methods. The NRRC provided every SRC member with *The Art of Classroom Inquiry* (Hubbard & Power, 1993a). At this meeting, we focused on chapters surveying research design and data collection. SRC members who had previously engaged in teacher research (e.g., Emily Carr, Dera Weaver, and Patti McWhorter) and members of the SRC establishment committee (i.e., Shockley, Michalove, Garfield, Allen, and Baumann) participated in discussions involving the selection and refinement of research methods. SRC researchers spent two days writing drafts of research proposals, which were revised later in the summer.

At an SRC meeting in early September 1993, teacher-researchers refined their questions and methods. This process was new to many teacher researchers and quite frustrating at times because they needed to prepare multiple documents for different sources, for example, permission form to conduct research within their individual school districts, research approval form in conjunction with a University of Georgia grant, as well as the actual research proposals for the NRRC continuation application for federal funds. The necessity of specifying research methods and writing a literature review were especially problematic for many teacher researchers. The SRC group had focused on generality and refining questions and some researchers were not prepared for traditional grant writing conventions.

Table 2. Studies and Research Questions Driving Teacher-Research Projects in the NRRC/University of Georgia School Research Consortium

Study A: The Role of Discussion in Developing Strategies for Aesthetic Reading — Dera Weaver, Hilsman Middle: "What is the role of discussion in middle school readers' development of strategies for aesthetic reading?"

Study B: Student-Generated Curriculum and Student Motivation — Patti McWhorter, Barbara Jarrard, Sue Lee, Mindi Rhoades, and Buddy Wiltcher, Cedar Shoals High: "How will students who are given an opportunity to participate in generating their own curriculum respond? How will involvement in this activity affect their motivation to learn?"

Study C: The Effects of Developing Individual Family History Art Books on the Self-Esteem, Cultural Pride, Motivation, and Writing Achievement of Fourth- and Fifth-Grade African-American Students — Maxine Easom, David Harvell, and Gordon Eisenman, Fourth Street Elementary: "How does researching, writing, and artistically designing a personal history book affect the self-esteem, developmental writing achievement, expressive skills, motivation for learning, and sense of cultural pride of fourth- and fifth-grade African-American students?"

Study D: Do Racial Attitudes Change When Students Correspond About Multicultural Literature? — Valerie L. Garfield, Chattahoochee Elementary; Susan Hollingsworth, Fourth Street Elementary: "What effects will corresponding with a pen pal about literature representing various cultures have upon students' racial attitudes, cultural awareness, and ethnic identity?"

Study E: Exploring Ways of Using Videos and Transcripts of Story Discussions in Elementary and Middle School Teaching — Georgiana Sumner, Alps Road Elementary; Johni Mathis, Burney-Harris-Lyons Middle; Michelle Commeyras, UGA: "How does analyzing transcripts of videotaped story discussions result in informed reflection on second-grade students' thinking, listening, and reading and on eighth-grade students' metacognitive thinking?"

Study F: Teachers Becoming A Community of Writers — Debby Wood, Leah Mattison, Shelley Carr, and Ann Keffer, Comer Elementary; Randi Stanulis, UGA: "Does developing confidence as a writer encourage confidence as a teacher of writing, and how does being an active writer affect us as readers? Will becoming part of an adult community of writers enable us to help children when they encounter problems with their writing?"

Study G: An Elementary/High School Literacy Partnership — Emily Carr, Fourth Street Elementary; Sally Hudson-Ross, Cedar Shoals High: "When elementary and high school students write (pen pal letters) and speak or read aloud (pen pal videos) to one another, how does the quality of their written and oral language change over time, and what are the implications for early parental training?"

Study H: Developing and Extending Literate Dialogues — Beth Tatum, Cedar Shoals High: "What can I do to prompt genuine conversation about literature, and does that conversation change if the partner is a peer rather than an adult?"

Table 2. (continued)

Study I: Using HOTS (Higher Order Thinking Skills Program) Procedures With High Achieving (Unofficially Gifted) First- and Second-Grade Students — Vicki K. Krugman, Fourth Street Elementary: "How will in-class discussions and activities designed to focus on key thinking skills influence aptitude scores, learning attitudes, and the ability to engage in general academic tasks demonstrating problem solving skills and strategies?"

Study J: Poetry As A Path to Learning — Carrie Gantt and Linda Smith, Fourth Street Elementary: "How does an intensive concentration of poetry in a third-grade whole language classroom affect the reading abilities and engagement of African-American students working cooperatively in small groups?"

Study K: Improving Media Center Collection to Support Reading Interests of At-risk Students — Shu-Hsien Chen, UGA; Dana MacDougald, Cedar Shoals High; Melvin Bowie, UGA: "Will at-risk ninth graders read more and improve their attitudes toward fiction and biographies when provided titles that interest them?"

Study L: Reading and Writing Math: Helping Children Overcome Math Word Problem Anxiety — Sharon L. MacDonald, Comer Elementary: "Will practice writing, solving, and sharing student-made word problems help relieve student anxiety about solving word problems in testing environments, and increase their understanding of mathematical concepts?"

Study M: Multi-Age Group Fairy-Tale Project in Grades 1 and 3 — Jane Holman, Christine Fuentes, and Nancy Baumann, Barnett Shoals Elementary: "Can students learn to recognize and incorporate elements of a story into their own writing and retellings after hearing and viewing several versions of a fairy tale, and will students demonstrate increased self-esteem and motivation for learning and enhanced social skills through participation in this multi-age project?"

Study N: The Impact of African-American Literature on the Motivation of Learners in American Literature Classes — Louise Neal, Cedar Shoals High: "What impact will inclusion of multiethnic literature have on students' self-concept, academic performance in English, attitude toward reading, attitude toward Cedar Shoals (sense of belonging), and understanding and acceptance of others' cultures?"

Study O: Creating Literate Relationships with Fetal-Alcohol and/or Crack Babies and Their Families — Karen Hankins, Whit Davis Elementary: "Will reading-writing journals serve to bridge home and school in a tangible way for children from drug abusive backgrounds?"

Study P: Developing the Language of Science: A Special Education Inclusion Model for Fourth Grade — Jodi P. Weber and Christine McKinney, Fourth Street Elementary: "By team teaching science in a fourth-grade classroom, using the inclusion model for meeting the needs of the Special Education students, we wonder how writing in science journals and involving students in discussions during science circle will impact on their test scores in the area of science."

Study Q: The Impact of Writing Buddies on Second- and Fifth-Grade Writers and Readers — Wanda Wright, Jewel Moore, Pat White, and Helene Hooten, Gaines Elementary: "What are the benefits of a writing partnership on second- and fifth-grade students' attitudes toward and participation in the writing process?"

Table 2 presents the 17 SRC projects that commenced in the fall of 1993 and continued throughout the school year. The table lists project titles, researchers, and research questions. Several themes evident in the poll data and the teachers' initial questions recur in the questions driving their actual research. For example, Studies C and N, among others, address student motivation for literate activity. On the other hand, issues of ethnic, cultural, and linguistic diversity were not prominent in the original poll but were of clear interest and concern to SRC researchers. For example, Study D examined attitudes toward cultural awareness and ethnic identity when students from a predominantly European-American fifth-grade class corresponded with students from a predominantly African-American class in another school. Similarly, Studies C, J, and N address diversity in some fashion.

To demonstrate how the teacher-researchers' questions grew and changed throughout the SRC establishment process, we present two stories. The first story illustrates how the talk and sharing that occurred at the SRC group meetings led teacher researchers to discover common concerns which oftentimes led to collaborative research. The second story provides an example of how some teachers' initial research questions were altered or changed entirely when it became clear to the researchers that they were not engaging in inquiry that was personally meaningful to them. Both stories document the evolutionary process inherent in teacher inquiry. Each story is unique in that no two researchers underwent an identical question-refinement process. The stories are representative, however, in that the research questions actually studied rarely were the questions the teachers initially posed. Furthermore, the questions explored were always personally relevant to the researchers as educators and learners.

Connecting to Address Common Issues

At the June 1993 two-day meeting designed for proposal development, most groups began working on writing proposals. However, Susan Hollingsworth and Valerie Garfield sat at a table of five "undecided" researchers. Valerie was thinking about several research topics, including the motivation of struggling readers and the use of hypercard for book reports, a possible extension of an earlier study she had worked on with David Reinking at the NRRC.

Susan was thinking about studying the writing styles of her African-American fifth-graders, but she was concerned that her research would not make a meaningful contribution: Why would other teachers want to know about these styles? What would they want to know? We discussed Sarah Michaels' research on share-time narrative of African-American children and why that information was important for teachers, but Susan still was not satisfied with her question.

Susan, an African-American teacher in a class where 90% of the students are African American, began to talk about how strongly she felt about the Afro-centric literature she supplied for her class. She *knew* that was important. Valerie, a European-American teacher whose students were all European American, listened and then talked about

reading Mildred Taylor with her students last year. She had read *Roll of Thunder* and then the rest of Taylor's books. Susan and Valerie began talking about books by African-American authors, books dealing with racial issues (e.g., Jerry Spinelli's *Maniac Magee*), and books about a poor white Georgia family during the Civil War. They shared titles and authors. One of them mused aloud about connecting their two classes. What would happen, they wondered, if the two classes became pen pals—if they read the same books and then wrote to their partners about how they felt about the books, what they thought about the characters and events, and how they related personally?

Several hours later, Susan and Valerie had created a research proposal titled "Effects of Literature Upon Students' Racial/Cultural Attitudes." They wrote, "We hope to build a sense of community and tolerance for other cultures through mutual responses to literature." They spent time thinking through political issues that might be particularly volatile in both their communities: Would the superintendent or school board in Valerie's virtually all-White community think that this project was potentially explosive? Would any parents there object to some of the books? Would any parents in Susan's community object to a connection between the two classrooms, remembering civil rights marches in the county where Valerie taught?

Susan and Valerie talked through the wording of parental permission letters, decided to take a university consultant to a meeting with the superintendent for added support, planned to capitalize on a previously-planned visit by Valerie's principal to Susan's school to examine educational innovations, and discussed openly their feelings about the stereotyping of both of their communities. Valerie expressed particular unhappiness over how the county where she taught was perceived and labeled by the outside world: "Everyone sees the county as full of hatred because of maybe two percent of the population." Susan talked about the community's perception of her school's population, which comes from one of the more economically distressed neighborhoods.

A key connector was the books themselves—the spark was lit as these two teachers shared information about individual books, strategies for ordering multiple copies, bookstores and book dealers they ordered from, and "bonus points" from book clubs. They talked about how much they loved to read and how they engaged their students through literature. They talked about the importance of exploring both one's own culture and different cultures through literature. They talked about how important a project like this could be in fostering understanding between two cultures—Black and White—through their children, who were perhaps still open to trying to understand each other.

The project has undergone even more than the expected number of obstacles. Valerie's principal and school board approved the proposal, but then Susan moved into an administrative position and had to withdraw. Unfortunately, even after all of this work, the researchers were unable to continue this project because of Susan's new position. The realities of school life sometimes outweigh the best developed research plans.

Connecting to Work Together

Christine McKinney teaches fourth grade and Jodi Weber teaches students with special needs at the same school. They are friends, and they team teach science through an inclusion model one hour a day. But when they joined the SRC, each was pursuing individual interests. In the spring of 1993, Christine was curious about the effects of literature on students' writing, and she wondered how the "Higher Order Thinking Skills" program might affect her students' reading and self-esteem. Jodi wanted to study how literature might help her students deal with problems and make decisions. Both developed and modified questions related to their individual interests.

Christine, however, was dissatisfied. "I feel like I already know the answer—I have been seeing the effects of the literature we read in class on my fourth graders' writing, in their topic choices, their style of writing, and their language." It really was not a burning question. Christine listened with great interest to the team from another school talk about their fairy-tale project (Study M, see Table 2). Jodi, noting her interest, encouraged her: "You do a wonderful unit on fairy tales. Study something you are already doing and what kind of impact it has on your students."

Christine was excited by this possibility. Her new question was "How do reading and writing fairy tales influence students' oral and written language, their use of storybook language and structures, and their awareness of cultural differences and similarities?" In the meantime, Jodi's question had also evolved: "In what ways can literature bring about productive discussions on emotionally-charged issues? What are the social interaction patterns that occur, including patterns that emerge through reciprocal teaching? What evidence will there be in student discussion or behavior that indicates they have identified with or adopted the strategies of book characters?"

School began and Christine and Jodi talked about their individual projects. They were having a hard time getting started. Perhaps this was an indicator that they were not yet invested in their questions, just as writers have difficulty with topics that are not deeply meaningful to them. As they talked, they decided what they really wanted to do was to work together. They enjoyed the part of the day they taught together, and they were already spending a great deal of time learning, planning, and informally studying how their students were responding to their science instruction in an inclusive setting. Teaching science together was new, difficult, exciting in its challenges, and it was collaborative. It was what they really wanted to learn more about.

By October, they had written a new proposal: "Developing the Language of Science: A Special Education Model for Fourth Grade." Their questions focused on the new techniques they were adapting and developing: "How will writing in science journals and involving students in discussions during science circle impact on their test scores in science? How do fourth-grade students with special needs progress in a regular science classroom using the inclusion approach? What is the relationship, if any, between science journals, discussions during science circle, and their use of scientific language? What is the relationship between sci-

ence activities in the classroom and the children's individual reading choices?" It took time, thinking, and talking, but Christine and Jodi ultimately created questions that were important and meaningful to them as teachers. Although research remained a challenge for them, they surmounted the issue of relevancy by crafting questions in which they could invest the time and energy required for teacher inquiry.

DISCUSSION

Cochran-Smith and Lytle (1992, p. 290) stated that, until recently, what has been "clearly missing from the literature on teaching are the voices of teachers themselves, the questions teachers ask . . . ." Our analysis, and the work of others (e.g., Bissex & Bullock, 1987; Cochran-Smith & Lytle, 1993; Goswami & Stillman, 1987; Patterson et al., 1993), indicates that teachers' questions *are* being expressed and heard. Furthermore, it is our belief that the process of questioning is the foundation of teacher inquiry.

On the surface, question generation and evolution might seem like a haphazard process. We suspect this is true for most researchers and have observed it among ourselves and other university-based researchers during the development of NRRC proposals. Hubbard and Power (1993b, p. 21) report that to arrive at researchable questions, "Many teachers have to do some wandering to get to their wonderings," a process documented by Jodi's and Christine's circuitous route to their research questions. Sims (1993), an experienced middle school teacher, elaborates on the apparent lack of structure in question growth:

> My journey was neither linear, solitary, nor sequential but was instead a messy process of coming to know myself, my questions, and my work. Over the course of a year, my research questions kept evolving as I developed new perspectives for exploring students' needs, classroom environments, teaching strategies, and teacher collegiality. (p. 284)

However, posing and refining questions is not a random process. A common thread appears to be a personal need to learn and grow in a way that leads to professional development and more enriched learning experiences for students. We have found that teacher researchers in the SRC are motivated in at least three ways, all of which lead to questioning: They are driven by their personal appetite to learn, their commitment to their students, and their desire to share what they learn and help colleagues (Allen, Shockley, & Baumann, in press). For instance, Susan and Valerie settled on their project because of their strong desire to broaden their students' pride, awareness, and appreciation of their own and other cultural and ethnic groups. Experience with teacher research tells us that teachers' curiosity and desire to learn are infectious, leading students to study problems of interest to them just as their teachers explore questions that challenge them (Atwell, 1991, p. 13).

And this pattern of needing to know and grow transcends the SRC. For example, Karen, an elementary special education teacher and participant in the Educative Research Project in Salt Lake City (Gitlin et al., 1992), traced her struggle to pose and refine a re-

search question that originally was the broad "What is success?" but which gradually evolved into multiple, more manageable questions. Karen wrote, "I have generated many more questions than I had when I started" (p. 64). But the common denominator for Karen, the SRC researchers, and those in other teacher research communities is the personal, emotional nature of questions that emerge from their day-to-day work and challenge them as teachers. Sims (1993, p. 289) refers to these as "burning questions" which germinate and grow:

> Although my questions as a teacher researcher keep evolving, I realize that by looking at many kinds of classroom data, I can uncover and articulate concerns that have existed in my practice for a long time. My initial questions about how students make meaning from texts evolved into new questions whose scope was much broader and encompassed other issues across children and contexts. (p. 289)

In addition to the centrality of questioning in teacher research, we have learned, like others (e.g., Smith, 1993), that becoming a community of researchers takes time. Connecting with other literacy professionals in a setting that allows for time to explore, time to talk, and people to facilitate connections appears to be a powerful way of knowing and growing professionally. At each of the SRC meetings, researchers talked to other people who had common interests—across kindergarten through grade 12—an opportunity many expressly indicated was almost nonexistent for teachers. They also talked to people from their own schools about instructional issues; they shared journal articles, books, and other resources; and they requested specific information related to their areas of inquiry or research methods. They began to form a vibrant, and we hope, self-sustaining community.

Research, especially research which is the extension of the everyday demands of teaching, is a continuously evolving process, and it is rarely easy or without frustrations. Jodi and Christine have continued to struggle with finding ways to collect information. They reported to the SRC group in January 1994 that they twice became discouraged and "tried to quit," but other members of the SRC encouraged them to continue. The small amount of start-up money from NRRC has bought them time to plan together, but they continue to struggle with documenting the process. Still, they are noticing meaningful changes. "For the first time," Jodi told the group of SRC colleagues, "the children—all the children—see me as a real teacher, a science teacher, not a special ed. teacher."

What powerful models Susan, Valerie, Christine, Jodi, and their colleagues are—models for SRC researchers and for others. What critical research they are conducting. No one has asked, nor do we expect will ask, "Do teachers need to know this?" As Bissex (1987, p. 4) says, "*A teacher-researcher is a questioner . . . .* Problems become questions to investigate, occasions for learning rather than lamenting." The questions are significant to the researchers because they have come from within. And the answers they are generating, just like the questions themselves, are owned by and are meaningful to the participants.

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